

COMMERCIAL INTELLIGENCE DEPARTMENT, INDIA

QUINQUENNIAL REPORT
ON
THE AVERAGE YIELD PER ACRE
OF
Principal Crops in India

FOR

The period ending 1921-22

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The Average Yield per Acre of Principal Crops in India.

I—MEMORANDUM.

A provisional return of the yield per acre of principal crops cultivated in India was first compiled in 1892 from various statistical publications available at the time, such as agricultural and settlement reports, crop forecasts, gazetteers, replies to the enquiries of the Famine Commission, etc. To provide for the periodical revision of the estimates, a system of experimental crop cuttings was prescribed in 1893 by the Government of India, the results of which are reported by Local Governments and Administrations at the close of each quinquennium. The returns for the last quinquennium ending 1921-22 have been received and scrutinised, and tabulated in the appended tables.* These outturns per acre are of extreme importance since these will generally be used during the present quinquennium (ending 1926-27) in estimating the production of crops for which forecasts are prepared.

" 2. The estimate given is the average outturn on average soil in a year of average character, as deduced from the information obtained from experiments made up to the period under review. When, therefore, this average is multiplied by the average area sown, it should give as near an approximation as possible to the outturn of the crop in an average year. The Departments of Agriculture or Land Records of each province maintain standard estimates of the average yield of land of average quality (usually under the two major heads of irrigated and unirrigated land) for several crops in each district. The object of the experiments or investigations annually made is to test the accuracy of these estimates and to enable the head of the Department in each province to revise his provincial estimates, when necessary. Should it happen that the period has been one of exceptionally favourable or unfavourable conditions which have affected the experiments reported, this would not necessarily involve a change in the standard estimates for the district or for the province, unless there were other reasons for believing that, as estimates of average yield in an average year, they have been pitched too high or too low.

3. On an examination of the returns for the quinquennium ending 1911-12, it was recognised that the results of the experiments as conducted by the district revenue staff were generally unreliable. A change in the system was therefore considered necessary; and in 1915 the Government of India, with a view to improve the returns, issued instructions to employ as far as possible the expert officers of the provincial Agricultural Department for carrying out experiments on a well-ordered plan in each agricultural tract and for the investigation of average crop outturns in the various provinces. The new system was introduced in the quinquennium ending 1916-17 in some of the provinces mainly as an experimental measure, as explained in the previous report. It appears from the present reports that during the quinquennium under review the new system was not fully carried into effect in most of the provinces. In Bengal, for instance, only cuttings of jute were made by trained officers of the Agricultural Department under expert supervision. In Madras the experiments conducted by the Agricultural Department are too few to admit of the results being accepted as representative. In Bombay the new system of experiments conducted by officers of the Agricultural Department continued, but in certain districts, where the kind and value of the land varies widely from field to field, the old method had to be adopted. In Bihar and Orissa crop tests were carried out by the Agricultural Department on a small scale in thirteen districts. In the Central Provinces and Berar the experiments made are stated to be still of doubtful value. In the Punjab officers of the Agricultural Department were only consulted in revising the standards. In Burma, according to the revised instructions, the work was entrusted to the Agricultural Department from the beginning of the quinquennium under review; but as a result of the recommendations of a conference held in 1920 (which were accepted by the Local Government) the work was transferred to the Settlement Officers, on the ground that the cuttings made by them supply sufficiently reliable data for ascertaining the actual average outturns of crops. In the North-West Frontier Province, the work was entrusted to the Agricultural Department.

* The return for the previous quinquennium ending 1916-17 was published in 1919.

in the quinquennium under review; but the system, it is stated, has not proved satisfactory on account of inadequate staff. In Mysore results of crop experiments conducted by the Agricultural Department were utilised for checking and revising those of the Revenue Department.

4. As a result of the experiments conducted or investigations made during the quinquennium under review, considerable changes have been made in the averages previously adopted, except in the United Provinces, Bombay, and the Central Provinces and Berar. In Bengal, the yield of autumn rice has been raised from 871 to 888 lbs, of jute from 1,300 to 1,330 lbs, and of sugarcane from 2,963 to 3,004 lbs. In Madras, the average outturn of sugarcane has been raised from 5,040 to 6,420 lbs, of rice from 1,047 to 1,065 lbs, and of cotton from 66 to 78 lbs. In Sind rice has been raised from 1,316 to 1,341 lbs and cotton from 170 to 190 lbs. In the Punjab, the yield of wheat has been raised from 791 to 856 lbs, of gram from 615 to 671 lbs, and of sugarcane from 1,933 to 2,191 lbs. In Assam, the yield of jute has been increased from 1,320 to 1,400 lbs, and of sugarcane from 2,016 to 2,128 lbs. In the North-West Frontier Province, the yield of sugarcane has been raised from 2,660 to 2,721 lbs. On the other hand, the standards have been lowered in certain cases. The yield of winter rice has been decreased from 1,036 to 1,029 lbs in Bengal, from 1,231 to 987 lbs in Bihar and Orissa, and from 952 to 896 lbs in Assam. Autumn rice in Bihar and Orissa has been lowered from 800 to 741 lbs. In Madras jowar has been reduced from 606 to 569 lbs, bajra from 624 to 488 lbs, and ragi from 1,092 to 927 lbs. In the Punjab maize has been lowered from 1,040 to 962 lbs, and jowar from 470 to 434 lbs. Wheat, barley and bajra in the North-West Frontier Province have been put at lower figures, *viz.* 614 lbs, 850 lbs, and 436 lbs, as against 676 lbs, 907 lbs, and 552 lbs, respectively, in the preceding quinquennium.

5. The statement below compares the average outturns of the major crops in the different provinces. The relative importance of each province in respect of each crop has also been shown by percentages representing the proportion of the total area under each crop in British India cultivated in each province. Tea has been included in this statement, although this crop is not dealt with in the quinquennial returns, the average outturns having been calculated from the special tea returns for the five calendar years ending 1921.

Province.	RICE.		WHEAT.		BARLEY.		JOWAR.		BAJRA.	
	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.
		lbs.		lbs.		lbs.		lbs.		lbs.
Bengal	26.8	{ (a) 1,029 (b) 1,156 (c) 888 1,065 }	0.5	688	...	...	...	...	...	...
Madras	14.2	1,065	...	...	...	...	23.7	569	23.8	498
Bombay	2.4	1,230	0.1	676	...	...	35.7	{ (d) 1550 (e) 870 (f) 816 }	27.7	400
Sind	1.4	1,341	2.1	{ (d) 1,032 (e) 711 1,050 }	0.3	{ (d) 812 (e) 1,019 1,160 }	2.3	{ (d) 816 (e) 392 600 }	6.7	{ (d) 591 (e) 319 550 }
United Provinces	8.7	900	29.6	1,050	60.2	1,160	10.0	600	19.5	550
Bihar and Orissa	19.1	{ (a) 987 (b) 800 (c) 741 777 }	5.0	{ (f) 984 (g) 451 856 }	18.3	891	...	...	...	...
Punjab	1.1	777	38.3	856	14.6	825	4.2	434	18.9	426
Burma	13.5	970	0.2	510	...	...	3.0	430	...	...
Central Provinces and Berar	0.5	624	18.4	600	...	...	20.1	664	...	...
Assam	5.8	{ (a) 896 (b) 1,008 (c) 706 }	...	...	...	...	...	...	...	...
North-West Frontier Province	0.1	802	4.2	614	3.5	850	0.8	500	1.1	436
Ajmer-Merwara	...	...	...	...	0.9	1,396	0.2	252	...	...
Delhi	...	...	0.2	792	0.3	830	0.1	585	0.5	629
Coorg	0.1	1,420	...	...	...	...	...	...	...	...

(a) Winter.

(b) Spring

(c) Autumn.

(d) Irrigated.

(e) Unirrigated.

(f) Bihar.

(g) Chota Nagpur.

Province.	RAGI.		MAIZE.		GRAM.		LINSYD.		SESAMUM.	
	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.
		lbs.		lbs.		lbs.		lbs.		lbs.
Bengal	...	...	...	...	1.3	826	5.1	407	4.8	503
Madras	59.2	927	1.6	616	0.9	400(d) 160(f)	...	...	17.8	300
Bombay	14.3	{ (d) 1,400 (e) 1,060 }	...	...	4.1	1,200(d) 110(e)	4.9	360	8.7	409
Sind	...	...	...	...	1.0	781(d) 491(e)	...	...	0.7	320
United Provinces	...	...	31.1	1,100	38.9	800	29.6	500	25.9	280
Bihar and Orissa	20.1	820	27.7	520	11.3	881	20.8	492	...	...
Punjab	...	...	17.9	982	31.6	671	...	...	...	...
Burma	...	...	2.0	700	...	...	...	...	26.2	160
Central Provinces and Berar	...	...	...	...	7.9	532	31.1	226	13.0	224
Assam	...	...	...	...	...	...	0.6	336	...	...
North-West Frontier Province	...	...	7.1	1,118	1.7	420	...	...	...	...
Ajmer-Merwara	...	...	1.1	917	...	...	...	...	...	...
Delhi	...	...	0.1	728	0.4	655	...	...	...	...
Coorg	...	...	...	...	...	...	...	...	...	...

Province.	RAPE AND MUSTARD.		SUGARCANE		COTTON.		JUTE.		TEA.	
	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.	Percentage area to total area.	Outturn per acre.
		lbs.		lbs.		lbs.		lbs.		lbs.
Bengal	17.5	456	8.2	3,064	0.1	155	88.2	1,310	26.4	479
Madras	...	...	4.3	6,120	16.8	78	...	...	6.2	279
Bombay	0.1	625	2.6	6,050	26.7	102	...	...	...	...
Sind	4.1	{ 348(d) 375(e) }	...	...	1.8	190	...	...	...	...
United Provinces	4.6	600	52.1	2,600	7.6	170	...	...	1.1	250
Bihar and Orissa	19.2	492	10.6	2,460	0.5	155	7.2	1,200	0.3	149
Punjab	16.4	440	17.3	2,191	11.6	138	...	...	1.4	161
Burma	...	...	...	...	2.5	90	...	...	...	...
Central Provinces and Berar	...	...	0.9	2,569	31.4	86	...	...	...	...
Assam	5.0	501	1.3	2,128	0.2	153	4.6	1,400	0.2	161
North-West Frontier Province	1.7	322	1.3	2,721	0.2	92	...	...	...	...
Ajmer-Merwara	...	...	...	...	0.3	136	...	...	...	...
Delhi	0.1	317	0.3	2,391	...	100	...	...	...	...
Coorg	...	...	...	...	...	...	...	...	...	...

(d) Irrigated.
(e) Unirrigated.

(A) Bengal gram.
(f) Horse gram.

6. The leading features of the provincial reports are summarised in the following paragraphs :—

Bengal—The total number of experiments made during the quinquennium under review with staple crops (rice, wheat, gram, linseed, rape and mustard, sesamum, sugarcane, and jute) was a record of 4,567 as against 3,671 in the previous quinquennium. It is, however, stated that greater accuracy than in the past cannot be claimed for the present figures except perhaps in the case of jute, the cuttings of which were made by trained departmental officers under expert supervision. It is also remarked that the reliability of the figures cannot be guaranteed unless it becomes possible for the Agricultural Department to take over the whole work. On the basis of the figures for the last three quinquennia, the average yield has been raised in the case of autumn rice, linseed, rape and mustard, sugarcane, and jute ; while it has been reduced in the case of winter and spring rice, wheat, gram, and sesamum. The important changes are an increase in the yield of sugarcane (*gur*) from 2,963 to 3,004 lbs, of jute from 1,300 to 1,330 lbs, of linseed from 443 to 467 lbs, and of autumn rice from 871 to 888 lbs, and a reduction in the case of gram from 867 to 826 lbs, of spring rice from 1,179 to 1,156 lbs, of winter rice from 1,036 to 1,029 lbs, and of wheat from 698 to 688 lbs. The returns do not distinguish between irrigated and unirrigated crops, the irrigated area being relatively very small in the province. A few experiments were also made as before with certain less important crops such as barley, maize, peas, lentil, *mung*, *arhar*, *khesari* and tobacco, but the data obtained were not sufficient to warrant the deduction of average yields per acre of these crops for the whole province.

Madras.—As in the previous quinquennium, experiments in the period under review were conducted by the Agricultural Department ; but the Provincial Director of Agriculture states that they are too few to admit of the results being accepted as representative for any tract, and that it would be inadvisable to draw any deductions therefrom. He further remarks that the utility of these experiments, as far as the Madras Presidency is concerned, is doubtful, for it is not possible to select an average ten-cent plot which will represent a crop over a considerable extent, in view of the great variations to be found in the same crop over a large tract in a country of small holdings. Consequently the figures of yield, which are solely based on crop-cutting experiments, have never, as stated in the previous report, been wholly depended upon for revising the standard outturns adopted in Madras for the purpose of calculating outturns in crop forecasts, season and crop reports, etc. The revision is made on various other considerations besides the results of crop-cutting experiments, such as results obtained on Government farms, exports, consumption, etc. In the quinquennium under review the standard figures of yield per acre have been carefully revised by the Director except in the case of groundnut and sesamum. In effecting the revision of yields of food crops, he made use of the local knowledge of himself and his staff (especially in comparing the yields of adjoining districts) and checked the figures by a comparison of the yields of districts worked out on that basis, with the estimates of consumption and net export, supplemented, in the case of sugarcane, by tabulated results of crop-cutting experiments and the results obtained on the non-experimental plots in Government farms. The important changes made are :—an increase in the yield of sugarcane from 5,040 to 6,420 lbs, of cotton from 66 to 78 lbs, and of rice from 1,017 to 1,065 lbs ; while there has been a decrease in the yield of jowar from 696 to 569 lbs, of bajra from 624 to 488 lbs, and of ragi from 1,092 to 927 lbs. The figures now reported are stated to be an improvement on the earlier ones.

Bombay.—In the quinquennium under review only a few changes have been made in the district figures as a result of the experience gained by the officers of the Agricultural Department ; and although the changes are believed to be in the right direction, the Director thinks that the matter is largely one of guess work. The majority of the district figures remain unchanged because the Agricultural Department had no experience which would justify any change. The provincial Director of Agriculture remarks that he is not satisfied with the figures reported, more particularly for the districts in which

the kind and value of the land vary widely from field to field. In these areas in particular, the previous method was followed. No change has been made in the provincial averages previously adopted. It is stated that endeavours will be made during the next quinquennium to test other figures upon which it has not been possible to offer any definite opinion.

Sind.—The figures reported for Sind in the previous quinquennia were not the average outturns worked out from the yield of crops raised on different classes of lands and under various modes of irrigation, but were mostly the actual results of individual experiments (or mean figures where more than one experiments were made), by the settlement or divisional officers. The figures for the quinquennium under review are based on the data of outturn of the normal (12-anna) crop raised on different classes of irrigation and the district averages have been worked out by taking into consideration the area under each mode of irrigation. The provincial averages have also been worked out accurately and not approximately as before. The present figures seem therefore an improvement on the earlier ones, and the variations in the figures now reported as compared with those for the previous quinquennia are due to reasons stated above. The principal changes made are an increase in the yield of rice from 1,316 to 1,341 lbs, of cotton from 170 to 190 lbs, and of sesamum from 242 to 320 lbs, and a decrease in the yield of wheat (irrigated) from 1,366 to 1,032 lbs, and unirrigated from 874 to 711 lbs, of barley (unirrigated) from 1,279 to 1,069 lbs, of jowar (irrigated) from 866 to 816 lbs, and of bajra (irrigated) from 624 to 591 lbs. Sugarcane has been omitted from the present return as it is not a staple crop in any district in Sind.

United Provinces.—In the quinquennium under review experiments in the United Provinces were made by officers of the Agricultural Department and some by settlement officers, in addition to those conducted by district officers. The results obtained from these experiments have not necessitated a change in the standards previously adopted except in the case of some of the district figures where the evidence accumulated has been sufficient to justify a change. It may, however, be noted that owing to abnormal seasons, the experiments with the *kharif* crops of 1918 and *rabi* crops of 1919 were not undertaken in the province.

Bihar and Orissa.—The execution of crop tests by officers of the Agricultural Department of Bihar and Orissa was started in 1915 as an experimental measure; and experiments were carried out on a small scale during the quinquennium under review in thirteen districts, as supplementary to those conducted by district officers. But the information obtained by the staff of the Agricultural Department is still too meagre to serve as an effective check on the figures returned by district officers. The experiments conducted by the latter, on the other hand, are as usual unreliable, and the Director of Agriculture remarks "the figures are in my opinion valueless on account both of the small number of experiments made in any one year and of the fallaciousness of any statistics based on a system which deliberately prescribes a personal instead of a purely mechanical selection of plots for cutting. The valuelessness of the results is well illustrated by anomalies such as the greater yield shown for unirrigated than for irrigated transplanted paddy in the Patna and Orissa Divisions and of broadcast than transplanted irrigated paddy in Patna, Bhagalpur, Cuttack and on an average in the whole province. The explanation is that the number of cuttings in one case or other is always absurdly small for statistical purposes and the total number in all cases would have to be ten times as large even to get an average of the opinions of the officers concerned as to what an average is." These experiments do not therefore justify any modification of the standards previously adopted for the province. In the consolidated table of provincial averages (Table No. 1) these standards have therefore been retained, except in the case of rice, the standards for which were specially examined and revised in 1921 (the figure for winter rice was changed from 1,234 to 987 lbs, and that for autumn rice from 800 to 741 lbs); but in the detailed statement of district figures the average outturns based upon the experiments conducted during the quinquennium under review have been shown for each district as before.

Punjab.—The system of conducting crop cutting experiments was revised and greatly improved, and the new system came into force with the spring harvest of 1917 at least so far as experiments conducted by district officers were concerned. In preparing the present return the standards fixed in the previous quinquennia or assumed for assessment purposes and the results of the crop experiments made from time to time have been considered along with the opinions of local officers of the Revenue and the Agricultural Departments who were consulted before the standards now adopted were finally fixed. The present revision shows a general increase in the provincial averages for all the crops except rice, bajra, maize and unirrigated jowar. The notable increases are in the yield of sugarcane from 1,933 to 2,191 lbs, of gram from 615 to 671 lbs, of wheat from 791 to 856 lbs, of barley from 809 to 825 lbs, and of rape seed from 429 to 440 lbs; while there has been a decrease in the yield of maize from 1,040 to 962 lbs, of jowar from 470 to 434 lbs and of rice from 782 to 777 lbs.

Burma.—In November 1916, revised instructions were issued by the Local Government for the collection of crop measurement statistics with effect from the commencement of the quinquennium under review. These instructions changed the previous system and entrusted the supervision of experiments very largely to officers of the Agricultural Department. In 1919, however, the Director of Agriculture recommended a reversion to the old system under which the work was carried out by district officers independently of the Agricultural Department. This proposal was referred to a conference held at Mandalay on the 8th January, 1920, under the chairmanship of the Financial Commissioner, Burma, which comprised among others the Commissioner of Settlements and Land Records and the Director of Agriculture of the province. The conference came to the unanimous conclusion that crop measurements carried out under the new system by district agriculturists and township officers were absolutely valueless, and pointed out that crop cuttings of Settlement Officers supply a large mass of reliable figures which cannot be challenged on the strength of any number of cuttings taken by other, less experienced and less reliable agencies; and that no difficulty should be experienced in ascertaining from these crop cuttings the actual average outturns required for purposes of crop estimates. The conclusions reached at the conference were accepted by the local Government. The orders of 1916 were accordingly nullified and no attempt was made to complete the compilation of the crop measurement results recorded prior to the abandonment of the system. The yields shown in the present return are, therefore, based on experiments made in the course of settlement which, in Burma, has hitherto comprised a far more extensive series of crop measurements than is customary in India. In the case of rice, groundnut, cotton, and sesamum, the figures thus given have been considered with reference to those of similar adjacent districts and also with reference to the quantity of produce ordinarily exported. Any discrepancies thus brought to notice have been examined and rectified, where necessary. The standard outturn has been lowered in the case of rice and sesamum, while it has been raised in the case of cotton. The estimates now framed have been accepted by the Agricultural Department.

Central Provinces and Berar.—The last complete revision of the standard outturns of the principal crops in the Central Provinces and Berar was carried out in 1912. In 1918 a short review was made and a few figures were altered. The instructions for crop experiments were revised in 1917, when the Agricultural Department was first able to undertake some experiments. But a scrutiny of the experiments made in the quinquennium under review shows that they are still of a very doubtful value for various reasons, the chief amongst which are:—(1) some of the experiments are not representative either of the soils of the district or of the season, (2) the estimated outturn in the *anna* or *American* notation of the crop is often obtained by finding out the proportion each cutting bears to the present standard, a begging of the question which experimenting officers were particularly asked to avoid; and (3) allowance for *drriage* is made on no definite principle. Of the five years 1917-18 to 1921-22, the first one was below the average and the second and fourth were years of severe crop failures. As the statistics are meant to show the average outturn

on average soil in an average year, only the figures for 1919-20 and 1921-22 are of value and have been utilized for examining the standards. In the present return the existing figures have been accepted except in the case of certain district figures where there has been enough evidence, direct or indirect, to alter them. On account of the unsatisfactory nature of the system, the Director of Land Records, it is stated, proposes to suggest to Government methods for obtaining reliable figures in future, especially for those crops with which the Irrigation Department is concerned.

Assam.—The experiments during the quinquennium were conducted according to the revised rules prescribed in 1915 on all the crops for which forecasts are prepared and on certain other crops, such as *Matikalai* (*phaseolus radiatus*), maize, and potato. The number of experiments was much larger than in the previous quinquennium for all the crops except cotton; and the experiments were made in all the districts except in the Naga Hills and the newly formed districts of Sadiya and Balipara Frontier Tracts, where the staff is inadequate for the purpose. As a result of the experiments made, the averages have been revised in most cases, the most important changes being a reduction in the yield of winter rice from 952 to 896 lbs, and of linseed from 448 to 336 lbs, and an increase in the yield of jute from 1,320 to 1,400 lbs, and of sugarcane from 2,016 to 2,128 lbs.

North-West Frontier Province.—Up to the previous quinquennium ending 1916-17, the system of crop cutting experiments was confined to the Peshawar and Dera Ismail Khan districts only and was carried out by the Revenue Agency. In accordance with the new rules prescribed in 1915, the co-operation of the Agricultural Department was considered expedient and in 1918 the experiments in the Peshawar district were entrusted to the Agricultural Department. The system was similarly extended to the Hazara district where no such experiments were previously made. The new system, however, has not proved satisfactory as the officer in charge of Agricultural operations in the province states that the work cannot be efficiently performed by this Department without additional staff. Owing to the financial stringency it is doubtful whether such staff can be provided, but it is stated that the matter is under reconsideration. Two distinct sets of normal outturns have hitherto been framed and revised from time to time in this province, namely, one for the quinquennial return and the other for the provincial season and crop and the final forecast reports. To remove this anomaly one set of standard outturns has been framed on this occasion. The present return also includes for the first time the estimates for the Kurram and Pochi Agencies, which grow important crops. For the reasons stated above, no useful comparison can be made between the present and the previous figures. The present estimates have, however, been verified on a consideration of data available from all sources and in consultation with local officers.

Ajmer-Merwara.—The experiments in Ajmer-Merwara were conducted by the three sub-divisional officers and the tahsildar in the Todgarh tahsil in respect of the usual crops, namely, jowar, maize, cotton, and barley. On the basis of the results of these experiments the yield has been increased in the case of barley and lowered in the case of jowar, maize, and cotton; the most important changes being an increase in the yield of barley (irrigated) from 1,086 to 1,429 lbs, and a decrease in the yield of cotton from 291 to 136 lbs, and of jowar from 322 to 252 lbs.

Delhi.—In the present return two more crops, namely, sesamum and tobacco, have been added to those shown in the previous return, and outturns have been estimated for all the crops under both the heads irrigated and unirrigated. The yield of wheat is reported to be that fixed by the Chief Commissioner in 1917. The yields of other crops are based on rates fixed during the last settlement.

Coorg.—The only experiments made in Coorg have, as usual, been on rice. The average yield has been slightly lowered from 1,425 to 1,420 lbs. The comparatively high yield of rice in Coorg is, as already explained in the previous report, attributed partly to special attention being paid to rice cultivation since the decline of the coffee industry and partly to the rice tracts of Coorg being watered by hill streams which contain much manurial matter.

Mysore.—In the present return, the following method of calculation has been adopted: The district averages have been arrived at in consideration of the crop cutting experiments conducted by the Revenue Department as modified by test experiments carried out by the Agricultural Department. The present figures are, therefore, an improvement upon those reported in the previous return, as the latter were based only on experiments conducted by the Revenue Department. The important changes are in the yield per acre of rice from 1,185 to 1,322 lbs, of sugarcane (gur) from 2,559 to 2,621 lbs, and of cotton from 122 to 147 lbs.

D. N. GHOSH,

Director of Statistics,

for Director General of Commercial Intelligence.

December 8, 1923.

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II.—TABLES.

NO. 1. — THE LANCET — 1881.

NOTE—(1) Average yield of both irrigated and unirrigated land is ascertained by multiplying the yield of irrigated land by the irrigated area cropped, and the yield of unirrigated land multiplied by the unirrigated area cropped, and dividing the sum of these products by the total area cropped.

(2) The superseded figures of the previous quinquennals have been inserted merely to show the trend of the revision made in each period.

The variations in the figures of yield of crops now reported as compared with previous ones are due to the fact that the averages have been worked out not approximately as before, but accurately.

The averages for Burma for 1916-17 are based on the normal cutlurns per acre given in the Season and Crop Report of Burma for 1916-17.

(a) As constituted before 1906.	(d) Spring.	(g) Punjab.	(j) Relative to Eastern Bengal and Assam.
(b) As constituted before 1912.	(e) Autumn.	(h) Cochin Nagpur.	(k) Decar.
(c) Winter.	(f) Bihar.	(i) Includes Delhi.	

INDIA and in the MYSORE STATE.

RAJRA (<i>Pennisetum typhoides</i>)			RAOI (<i>Echinochloa crusgalli</i>)			MAIZE (<i>Zea Mays</i>)			PEAS AND BEANS			Quinquennial ending	PROVINCE
Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both		
..	820	820	881	1901-02	Bengal
..	..	..	..	..	820	..	..	820	..	..	..	1906-07
..	..	..	..	..	..	..	..	..	..	..	..	1911-12
..	..	..	..	..	..	..	..	..	..	..	..	1916-17
..	..	..	..	..	..	..	..	..	..	..	..	1921-22
786	545	..	1,296	708	1901-02	Madras
1,020	611	..	1,403	955	..	..	..	..	..	..	..	1906-07
1,020	659	..	1,410	1,076	..	..	..	..	..	..	..	1911-12
..	..	..	..	..	1,002	..	..	..	..	..	..	1916-17
800	440	488	1,341	638	927	..	..	638	..	..	..	1921-22
..	400	..	1,400	1,080	1901-02	Bombay
..	400	..	1,400	1,080	..	..	..	..	..	..	..	1906-07
..	400	..	1,400	1,080	..	..	..	..	..	..	..	1911-12
..	400	..	1,400	1,080	..	..	..	..	..	..	..	1916-17
..	400	..	1,400	1,080	..	..	..	..	..	..	..	1921-22
763	1901-02	Sind
778	..	..	..	..	..	..	..	..	..	..	..	1906-07
971	..	..	..	..	..	..	..	..	..	..	..	1911-12
824	..	..	..	..	..	..	..	..	..	..	..	1916-17
591	319	..	..	..	..	..	..	..	..	..	..	1921-22
..	500	550	..	(1)1,150	(1) 800	(1)1,000	1901-02	United Provinces
..	550	..	..	..	..	..	1,050	..	(1)1,150	(1) 800	(1)1,000	1906-07
..	550	..	..	..	..	..	1,100	..	(1)1,150	(1) 800	(1)1,000	1911-12
..	550	..	..	..	..	..	1,100	..	(1)1,150	(1) 800	(1)1,000	1916-17
..	550	..	..	..	..	..	1,200	..	(1)1,150	(1) 800	(1)1,000	1921-22
..	820	820	1911-12	Bihar and Orissa
..	..	..	..	..	820	..	..	820	..	..	..	1916-17
..	..	..	..	..	820	..	..	820	..	..	..	1921-22
636	378	407	1,183	841	943	1901-02	Punjab
595	445	462	..	..	..	1,170	850	1,001	..	..	..	1906-07
521	365	379	..	..	..	1,112	704	908	..	..	..	1911-12
568	416	420	..	..	..	1,324	822	1,040	..	..	..	1916-17
556	409	425	..	..	..	1,261	745	962	..	..	..	1921-22
..	1901-02	Upper Burma
..	..	..	..	..	..	..	..	..	..	..	..	1906-07
..	1911-12	Lower Burma
..	..	..	..	..	..	..	..	..	..	..	..	1916-17
..	1921-22	Burma
..	..	..	..	..	..	..	..	700	..	..	..	1901-02
..	1906-07	Central Provinces and Berar
..	..	..	..	..	..	..	..	..	..	..	..	1911-12
..	..	..	..	..	..	..	..	..	..	..	..	1916-17
..	..	..	..	..	..	..	..	..	..	..	..	1921-22
..	..	..	..	..	..	..	..	..	..	..	..	1901-02
..	1906-07	Assam
..	..	..	..	..	..	..	..	..	..	..	..	1911-12
..	..	..	..	..	..	..	2,123	..	..	..	..	1916-17
..	2,123	1921-22	North-West Frontier Province
702	381	402	..	..	..	1,005	593	1,150	..	..	..	1901-02
693	482	497	..	..	..	1,841	745	1,342	..	..	..	1906-07
704	489	502	..	..	..	1,356	785	1,202	..	..	..	1911-12
784	540	552	..	..	..	1,770	785	1,270	..	..	..	1916-17
571	427	430	1,440	740	1,118	1921-22	Ajmer-Merwara
..	..	..	..	..	..	..	..	..	..	..	..	1901-02
..	..	..	..	..	..	..	..	..	..	..	..	1906-07
..	..	..	..	..	..	..	..	..	..	..	..	1911-12
..	..	..	..	..	..	..	..	..	..	..	..	1916-17
..	1,000	400	517	1921-22	Delhi
..	..	..	..	..	..	..	..	..	..	..	..	1901-02
..	1906-07	Coorg
..	..	..	..	..	..	..	..	..	..	..	..	1911-12
..	1916-17	Average for British India
..	..	..	..	..	..	..	..	..	..	..	..	1921-22
..	1901-02	Mysore
..	..	..	..	..	..	..	..	..	..	..	..	1906-07
..	..	..	..	..	..	..	..	..	..	..	..	1911-12
..	..	..	..	..	..	..	..	..	..	..	..	1916-17
..	1921-22	

(1) *Phum estium*.(m) *Phum estium* (red).(m) *Dolichos lablab* (large white).(c) *Phaseolus lunatus* (small white).

PROVINCIAL AVERAGES—continued

No. 1.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in each PROVINCE of BRITISH

PROVINCE	Quinquennial ending	ARHAR (<i>Cajanus indicus</i>)			GRAM (<i>Cicer Arctinum</i>)			LINSEED (<i>Linum usitatissimum</i>)			TIL OR JINJILI (<i>Sesamum indicum</i>)		
		Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both
Bengal	1901-02(a)	..	..	881	..	..	881	..	..	402	..	..	..
	1906-07(b)	..	..	881	..	..	881	..	..	402	..	..	..
	1911-12	..	..	..	..	..	881	..	..	402	..	..	..
	1916-17	..	..	..	..	..	867	..	..	443	..	..	..
	1921-22	..	..	..	..	..	828	..	..	407	..	..	504
Madras	1901-02	..	..	..	..	..	..	..	..	..	374	290	..
	1906-07	..	..	..	..	..	..	..	..	..	444	270	..
	1911-12	..	..	..	..	..	..	..	..	..	373	238	..
	1916-17	..	..	..	..	..	..	..	..	..	..	..	208
	1921-22	..	..	..	..	..	{(f) 400 160*	..	..	..	..	..	300
Bombay	1901-02	..	..	..	1,200	410	..	..	360	..	..	400	..
	1906-07	..	..	..	1,200	410	..	..	360	..	..	400	..
	1911-12	..	..	..	1,200	410	..	..	360	..	..	400	..
	1916-17	..	..	..	1,200	410	..	..	300	..	..	400	..
	1921-22	..	..	..	1,200	410	..	..	300	..	..	400	..
Sind	1901-02	..	..	..	..	400	..	..	..	..	448	..	..
	1906-07	..	..	..	..	480	..	..	..	..	448	..	..
	1911-12	..	..	..	..	476	..	..	..	..	364	..	..
	1916-17	..	..	..	..	604	..	..	..	..	242	..	..
	1921-22	..	..	..	784	481	..	..	..	..	320	..	..
United Provinces	1901-02	..	750	..	950	800	800	..	500	..	..	280	..
	1906-07	..	750	..	950	800	800	..	500	..	..	280	..
	1911-12	..	750	..	950	800	800	..	500	..	..	280	..
	1916-17	..	800	..	950	800	800	..	500	..	..	280	..
	1921-22	..	800	..	950	800	800	..	500	..	..	280	..
Bihar and Orissa	1911-12	..	..	881	..	..	881	..	..	402	..	..	..
	1916-17	..	..	881	..	..	881	..	..	402	..	..	..
	1921-22	..	..	881	..	..	881	..	..	402	..	..	..
Punjab	1901-02(c)	..	..	..	835	634	559	..	..	..	..	..	..
	1906-07(c)	..	..	..	884	650	701	..	..	..	..	..	..
	1911-12(c)	..	..	..	625	534	540	..	..	..	..	..	..
	1916-17	..	..	..	725	588	615	..	..	..	..	..	..
	1921-22	..	..	..	768	644	671	..	..	..	..	..	..
Upper Burma	1901-02	..	..	..	..	645	..	..	..	..	..	200	..
	1906-07	..	..	..	..	778	..	..	..	..	..	224	..
	1911-12	..	..	..	..	414	..	..	..	..	..	229	..
	1916-17	..	..	..	..	..	..	..	..	..	..	(g) 225	..
Lower Burma	1901-02	..	..	..	..	..	..	..	..	..	..	..	..
	1906-07	..	..	..	..	..	..	..	..	..	..	..	..
	1911-12	..	..	..	..	..	..	..	..	..	..	..	..
	1916-17	..	..	..	..	..	..	..	..	..	..	..	..
Burma	1921-22	..	..	..	..	..	..	..	..	..	..	..	180
	1921-22	..	..	..	..	..	..	..	..	..	..	..	..
Central Provinces and Berar	1901-02	..	..	..	(c) 662	..	..	(c) 456	..	..	(c) 380	..	..
	1906-07	..	..	..	525	..	..	205	..	..	230	..	..
	1911-12	..	..	..	572	..	..	220	..	..	224	..	..
	1916-17	..	..	..	532	..	..	220	..	..	224	..	..
	1921-22	..	..	..	532	..	..	228	..	..	224	..	..
Assam	1901-02	..	..	..	..	..	..	450	..	..	..	..	..
	1906-07(d)	..	..	..	..	840	..	448	..	..	448	..	..
	1911-12	..	..	..	..	..	..	448	..	..	448	..	..
	1916-17	..	..	..	..	..	..	418	..	..	..	..	..
	1921-22	..	..	..	..	..	..	536	..	..	..	..	..
North-West Frontier Province	1901-02	..	..	..	632	406	407	..	..	..	..	..	..
	1906-07	..	..	..	684	438	439	..	..	..	..	..	..
	1911-12	..	..	..	720	449	440	..	..	..	..	..	..
	1916-17	..	..	..	724	488	469	..	..	..	..	..	..
	1921-22	..	..	..	625	417	420	..	..	..	..	..	..
Ajmer-Merwara	1901-02	..	..	..	..	..	..	..	..	..	..	..	..
	1906-07	..	..	..	..	..	..	..	..	..	..	..	..
	1911-12	..	..	..	..	..	..	..	..	..	..	..	..
	1916-17	..	..	..	..	..	..	..	..	..	..	..	..
	1921-22	..	..	..	..	..	..	..	..	..	..	..	..
Delhi	1916-17	..	..	..	..	650	..	..	..	..	..	..	..
	1921-22	..	..	..	720	552	555	..	..	..	..	..	517
Coorg	1901-02	..	..	..	..	..	..	..	..	..	..	..	..
	1906-07	..	..	..	..	..	..	..	..	..	..	..	..
	1911-12	..	..	..	..	..	..	..	..	..	..	..	..
	1916-17	..	..	..	..	..	..	..	..	..	..	..	..
	1921-22	..	..	..	..	..	..	..	..	..	..	..	..
Average for British India		1921-22	..	840	..	..	783	..	..	402	..	..	259
Mysore	1901-02	..	..	..	..	212*	..	..	..	..	231	..	..
	1906-07	..	..	..	..	225*	..	..	..	..	215	..	..
	1911-12	..	..	..	..	237*	..	..	..	..	190	..	..
	1916-17	..	..	..	..	380*	..	..	..	..	232	..	..
	1921-22	..	..	..	..	389*	..	..	..	..	238	..	..

* Relates to horse gram.
(a) As constituted before 1906.
(b) As constituted before 1912.
(c) Includes Delhi.

(d) Relates to Eastern Bengal and Assam.
(e) Berar.
(f) Relates to Bengal gram.
(g) Average of both Upper and Lower Burma.

INDIA and in the MYSORE STATE—continued.

RAPE AND MUSTARD (<i>Brassica</i> sp.)			SUGARCANE (sugarcane) (<i>Saccharum officinarum</i>)			COTTON (GIRAFID) (<i>Gossypium</i> sp.)			JUTE (<i>Corchorus</i> sp.)			Quinquennial culling	PROVINCE
Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both		
..	..	482	2,460	75	1901-02	Bengal
..	..	492	..	..	2,160	..	..	155	..	..	..	1906-07
..	..	492	..	..	2,905	..	..	155	..	..	1,271	1911-12
..	..	490	..	..	2,968	..	..	157	..	..	1,300	1916-17
..	..	486	..	..	3,004	..	..	166	..	..	1,330	1921-22
..	1901-02	Madras
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Bombay
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Sind
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	United Provinces
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Bihar and Orissa
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Punjab
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Upper Burma
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Lower Burma
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Central Provinces and Berar
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Assam
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	North-West Frontier Provinces
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Ajmer-Merwara
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Delhi
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Coorg
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Avalon for British India
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	
..	1901-02	Mysore
..	1906-07	
..	1911-12	
..	1916-17	
..	1921-22	

(A) The 1st year yield of sugarcane crop have not been shown in the present return as no figures had been reported by district officers only to the last state is not a single crop in India.

DISTRICT AVERAGES.

No. 2.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in each DISTRICT of BENGAL.

District	Winter rice	Autumn rice	Summer rice	Wheat	Gram	Rape and mustard	Linseed	Sesamum (oil)	Sugarcane (gdr)	Tota
Bardwan	1,016	1,078	..	930	695	600	858	..	4,743	1,101
Birbhum	1,010	853	..	707	818	..	..	..	3,670	..
Bankura	1,032	909	..	670	730	535	..	400	3,421	..
Midnapur	1,030	859	728	..	..	..	..	502	4,024	1,206
Mooghly	1,278	1,000	..	..	..	..	..	..	4,839	1,416
Hewrah	938	702	..	..	..	..	..	..	3,292	1,430
24-Parganas	1,060	814	..	..	..	..	..	..	2,483	980
Nadia	1,012	931	..	716	709	735	413	263	3,028	902
Murshidabad	947	830	1,281	705	706	602	370	..	3,284	900
Jessore	1,022	884	..	..	670	400	670	533	4,837	1,110
Khulna	1,020	1,014	917	..	..	608	..	..	..	1,460
Rajshahi	928	880	..	500	703	527	435	558	2,534	1,310
Dinajpur	1,016	933	..	..	..	457	..	..	2,501	1,208
Ja'palguri	1,004	844	..	045	..	669	..	..	2,088	1,232
Darjeeling	903	1,011	..	..	..	512	..	..	..	1,371
Rangpur	906	868	..	..	..	483	..	..	3,161	1,401
Bogra	837	882	..	..	..	..	..	..	3,035	1,209
Pabna	957	1,314	788	..	875	450	..	715	3,040	1,102
Malda	932	941	..	570	910	400	450	..	..	1,136
Dacca	935	844	1,085	..	..	487	..	450	2,205	1,078
Majmaingh	934	884	1,101	..	..	403	801	437	3,019	1,480
Faizpur	1,017	845	870	527	910	406	503	555	2,699	1,460
Bakarganj	1,047	786	777	..	..	507	..	726	2,788	1,367
Chittagong	1,166	1,043	1,250	..	..	..	..	..	2,100	..
Tippera	914	906	1,501	..	..	420	..	380	..	1,413
Noakhali	933	861	..	..	480	..	..	..	..	1,624
Chittagong Hill Tracts	1,034	989	..	..	..	..	..	..	..	..
Average for the province (a)	1,016	922	1,111	686	744	495	514	502	3,067	1,301

(a) These figures are averages of the experiments made during the quinquennium ending 1921-22. The standards for the province adopted on the basis of all experiments made during the last three quinquennial periods are stated in table No. 1.

No. 3.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in each DISTRICT of MADRAS

District	Rice (husked) (a)		Jowar (a)		Bajra (a)		Ragi (a)		Til or Ajili (Sesamum)	Sugarcane (gdr)	Cotton* (cleaned)		Groundnut.	Castor	Tobacco (in dry leaf).
	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated			Irrigated	Unirrigated			
Agency Division	928	670	..	605	..	400	1,035	630	336	6,600	(b)	50	..	250	1,000
Gujarat	871	638	1,020	605	960	620	990	630	280	6,000	(b)	50	..	250	1,000
Vizagapatam	938	630	1,105	595	960	600	1,080	630	336	6,500	(b)	50	..	230	1,000
Godavari	1,240	603	1,105	595	960	604	1,080	720	336	7,500	(b)	75	..	250	1,300
Kistna	1,273	670	1,105	595	960	604	1,200	720	336	7,500	(b)	75	..	250	1,300
Godavari	1,206	737	1,106	595	930	604	1,710	720	290	7,500	(b)	75	..	250	1,300
Nelore	1,038	737	1,105	510	1,040	600	1,435	540	290	6,000	(b)	75	..	250	1,200
Kurnool	1,072	670	1,100	515	960	440	1,440	685	224	4,500	(b)	50	..	150	1,000
Seelary	1,139	603	1,275	382	1,040	370	900	405	224	6,000	(b)	50	..	150	1,000
Anantapur	1,139	636	1,100	382	960	320	1,305	540	224	4,500	(b)	50	..	150	1,000
Cuddapah	1,200	603	1,275	626	1,040	600	1,385	540	224	6,000	(b)	50	..	150	1,000
Chittoor	1,278	670	1,275	510	800	520	1,020	630	280	7,300	(b)	65	..	250	1,000
North Arcot	1,278	737	1,275	510	960	520	1,395	720	280	6,000	250	50	..	250	1,000
Chingleput	1,038	737	1,190	510	800	520	900	540	280	6,000	(b)	50	..	250	1,000
South Arcot	1,239	737	1,275	510	800	560	1,350	720	280	6,500	(b)	65	..	250	1,000
Salem	1,273	636	1,275	510	1,040	480	1,305	675	280	6,000	250	95	..	400	1,200
Coimbatore	1,273	636	1,275	510	960	320	1,530	720	280	7,500	250	51	..	400	1,200
Trichinopoly	1,273	670	1,275	425	960	400	1,260	685	336	6,000	250	48	..	400	1,200
Tanjore	1,172	737	1,105	425	960	660	930	450	388	6,000	250	66	..	400	1,200
Madura	1,306	603	1,190	510	800	360	1,260	585	280	6,000	230	98	..	100	1,200
Ramanad	1,206	737	1,190	340	800	320	1,350	560	280	4,600	250	105	..	400	1,200
Tinnevely	1,340	670	1,275	237	800	850	1,440	450	280	4,600	250	105	..	400	1,200
Nilgiris . . . . .	..	1,206	..	425	..	..	..	900	280	6,000	..	..	..	..	1,200
Malabar . . . . .	..	938	..	595	..	480	..	1,350	224	6,000	..	..	..	400	1,200
South Canara . . . . .	..	1,005	..	..	..	..	..	900	230	5,400	..	..	..	400	1,200
Average for the Province	1,160	804	1,241	493	960	440	1,341	630	300	6,420	250	68	1,120	230	1,160

* The figures of normal yield per acre in the South have been arrived at with reference to the distribution of the several varieties and hence they vary from year to year according to the distribution. Figures of average yield per acre for each variety are dry Cambodia 80 lbs, Uppam 65 lbs, except in Coimbatore where it is 75 lbs, Nadan 20 lbs, and Annam 110 lbs.
 (a) The yield reported in unhusked grain has been reduced by 33 per cent in the case of rice, 15 per cent in the case of jowar, 20 per cent in the case of bajra and 10 per cent in the case of ragi.
 (b) There is a small area under irrigation in these districts but the yield there does not differ much from that of unirrigated.

DISTRICT AVERAGES—continued

No. 4.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in each DISTRICT of BOMBAY

District	RICE (HUSKED)	WHEAT		JOWAR		BAJRA	RAPI		GRAM	
	Un- irrigated	Irrigated	Un- irrigated	Irrigated (a)	Un- irrigated	Un- irrigated	Irrigated	Un- irrigated	Irrigated	Un- irrigated
Ahmadabad	1,440	1,300	560	..	(b) 1,030	840	..	1,440	..	500
Kaira	1,320	1,300	600	..	(b) 1,050	970	..	1,440	..	500
Panch Mahals	1,200	1,300	700	..	(b) 1,100	820	..	1,420	..	600
Dwarka	800	..	600	..	(a) 820	700	..	1,500	..	500
Surat	1,660	..	560	..	(a) 700	600	..	1,200	..	500
West Khandesh	1,080	1,280	600	..	(b) 720	500	..	900	1,200	500
East Khandesh	1,080	1,280	600	..	(b) 720	380	..	900	1,200	500
Nasik	1,090	1,120	460	1,400	(a) 520	700	1,400	850	1,200	350
Ahmednagar	1,040	1,180	480	1,500	(a) 510	310	1,400	930	1,100	380
Poona	1,120	1,060	320	1,500	(a) 500	340	..	900	1,200	320
Sholapur	900	1,080	400	1,500	(a) 540	320	..	900	1,200	360
Satara	1,120	1,170	480	1,500	(a) 720	360	..	900	1,200	360
Belgaum	1,140	1,200	500	..	(a) 800	400	..	900	..	400
Bijapur	800	1,080	400	..	(a) 540	520	..	..	..	340
Dhule	1,110	..	500	..	(a) 1,000	460	..	1,200	..	500
Thana	1,200	..	..	..	..	..	..	770	..	400
Kolaba	1,200	..	..	..	..	..	..	800	..	350
Ratnagiri	1,020	..	..	..	..	..	..	680	..	320
Kanara	1,320	..	..	..	..	..	..	1,470	..	480
Average for the Province	1,230	1,230	610	1,560	670	400	1,400	1,060	1,200	410

District	LYSSED	STARCH (oil or flour)	SUGARCANE (gur)	COTTON (cleaned)	RAPI AND MUSTARD	SPLIT	KODRA (Paspalum Scrobiculatum)	GROUNDNUT	
	Unirrigated	Unirrigated	Irrigated	Unirrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated
Ahmadabad	350	400	6,000	125	610	..	1,320	..	500
Kaira	..	400	6,000	115	675	..	1,275	..	..
Panch Mahals	..	400	5,000	100	600	..	1,130	..	1,000
Dwarka	..	400	2,000	120	..	..	1,030	..	..
Surat	..	400	7,000	120	..	..	1,120	2,500	1,000
West Khandesh	350	400	7,000	110	..	1,500	900	2,600	1,250
East Khandesh	300	400	7,000	110	..	1,500	900	2,500	1,250
Nasik	360	400	7,000	100	..	1,500	..	2,500	1,250
Ahmednagar	360	400	7,000	90	..	1,500	..	2,500	1,250
Poona	360	400	7,000	90	..	1,500	..	2,500	1,250
Sholapur	360	400	7,000	90	..	1,500	..	2,500	1,250
Satara	360	400	7,000	90	..	1,500	..	2,500	1,300
Belgaum	380	400	7,000	100	..	1,500	..	2,500	1,500
Bijapur	300	400	7,000	90	..	1,500	..	2,500	1,250
Dhule	360	400	7,000	120	..	1,500	..	2,500	1,500
Thana	..	300	7,000	..	..	..	610	..	1,250
Kolaba	..	300	4,000	..	..	..	800	..	1,250
Ratnagiri	..	300	4,000	..	..	..	675	..	..
Kanara	..	300	6,000	..	..	..	..	..	..
Average for the Province	350	400	6,050	102	625	1,500	1,100	2,500	1,150

(a) Rabi

(b) Kharif

No. 5.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS* in each DISTRICT of SIND.

DISTRICT	RICE		WHEAT		RAPIEY		JOWAR		BAJRA		GRAM		TIL OR JIRRI (SISUMUH)		COTTON (CLEANED)		RAPESEED		JAMBOO (EUPHASIA)	
	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated
Karachi	1,314	1,330	1,011	1,017	1,220	1,333	472	800	277	..	..	..	..	..	..	350	..	..	..
Hyderabad	1,073	233	234	..	..	513	..	1074	..	..	..	..	..	..	250	..	..	..	..
Sukkur	800	1,003	583	..	..	678	..	612	..	800	308	..	..	..	..	808	..	..	..
Larkana	1,050	1,014	735	..	..	703	..	..	..	..	..	..	..	..	..	235	..	..	460
Upper Sind Frontier	1,450	919	808	..	..	720	678	601	600	920	520	920	..	..	523	348	411	362	..
Thar and Parkar	1,780	800	210	..	..	640	320	610	320	..	..	..	..	..	160	..	..	480	..
Naunah	1,100	900	635	..	300	1,100	..	825	..	575	500	..	..	..	200	..	400	..	..
Average for the province	1,311	1,072	711	842	1,058	810	502	801	319	781	401	320	320	100	248	375	420	591	..	

* The sugarcane crop has been omitted as no figures were reported by district officers, owing to the fact that the crop is not a staple one in Sind.

DISTRICT AVERAGES—continued

No. 6.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS

GROUP & DISTRICT *	RICE (husled)		WHEAT		BARLEY		JOWAR	BAJRA	MAIZE	GRAM	
	Irrigated	Un-irrigated	Irrigated	Un-irrigated	Irrigated	Un-irrigated	Un-irrigated	Un-irrigated	Un-irrigated	Irrigated	Un-irrigated
Almora . { Naini Tal : : : Almora : : : Garhwal : : : Dehra Dun : : }	1,500	1,400	1,250	1,000	..	..	..	..	..	..	..
Aoradabad . { Moradabad : : : Saharanpur : : : Bijnor : : : Bareilly : : }	1,050	800	1,250	800	1,300	1,000	650	500	1,000	1,000	750
Muzaffarnagar . { Muzaffarnagar : : : Meerut : : : }	1,000	800	1,300	850	1,500	1,000	650	450	1,200	1,000	800
Bulandshahr . { Bulandshahr : : : Aligarh : : : }	1,000	700	1,300	900	1,500	1,000	650	650	1,200	1,000	800
Mainpuri . { Mainpuri : : : Etah : : : Etawah : : : Farrukhabad : : }	950	700	1,250	700	1,300	800	650	550	1,200	1,050	700
Muttra . { Muttra : : : Agra : : : }	850	550	1,200	700	1,400	750	650	650	800	1,000	700
Budaca . { Budjoun : : : Shahjahanpur : : }	950	750	1,250	800	1,250	1,000	650	800	1,200	1,000	800
Sitapur . { Sitapur : : : Hardoi : : : }	1,000	800	1,250	900	1,300	1,100	650	550	1,200	950	900
Bithur . { Bithur : : : Fateh : : : Kheri : : : }	1,050	900	1,300	1,050	1,300	1,100	600	550	1,300	1,000	950
Unao . { Unao : : : Lucknow : : : Rae Bareilly : : }	1,000	800	1,250	850	1,400	700	650	600	1,100	1,000	800
Sultanpur . { Sultanpur : : : Barabanki : : : Partabgarh : : : Fyzabad : : : }	1,100	900	1,250	850	1,500	800	650	650	1,100	1,000	950
Fatehpur . { Fatehpur : : : Cawnpur : : : Allahabad : : : }	1,050	800	1,250	800	1,300	700	650	550	1,000	1,000	900
Benares . { Benares : : : Jaunpur : : : Mirzapur : : : }	1,000	700	1,100	800	1,300	800	650	500	1,000	800	650
Balla . { Ballia : : : Ghazipur : : : Azamgarh : : : }	1,200	900	1,250	750	1,300	800	650	700	1,000	950	900
Basti . { Basti : : : Gonda : : : Gorakhpur : : : }	1,050	900	1,250	800	1,300	750	650	400	1,000	900	750
Jhansi . { Jhansi : : : Jalaun : : : }	800	650	1,000	850	1,000	500	550	400	650	700	550
Banda . { Banda : : : Hamirpur : : : }	800	700	900	550	1,000	500	650	400	650	800	750
Average for the Province	1,100	850	1,250	850	1,350	900	600	650	1,100	950	800
	900		1,050		1,150					800	

* The districts are grouped into agricultural regions, and the determinations made in the representative district of each region are applied to the whole of that region.

in each DISTRICT of the UNITED PROVINCES

PEAS (Pisum Sativum.)		ARHAR (Cajanus Indicus)	LINSEED	SFSAMUK (til or jmlili)	RAPE AND MUSTARD	SUGAR- CANE (gdr)	COTTON (cleaned)		INDIGO (dye)	DISTRICT
Irrigated	Un- irrigated	Un- irrigated	Un- irrigated	Un- irrigated	Un- irrigated	Irrigated	Irrigated	Un- irrigated	Irrigated	
										Naini Tal : } Almora Almora : } Garhwal : } Dehra Dun : }
750	300		400	320	430	2,450		120	18	Moradabad Salanpur Bijnor Bareilly : } Moradabad
800	550					2,800	220	140	19	Muzaffarnagar Meerut : } Muzaffarnagar
1,000	050			350	400	2,500	230	180	19	Bulandshahr Aligarh : } Bulandshahr
800	550			410		2,200	230	160	15	Meerut Etah Etawah Farukhabad : } Meerut
650	400			410		2,000	230	150	16	Muttra Agra : } Muttra
650	400		400	320	430	2,400		120	16	Budaun Shahjahanpur : } Budaun
1,000	650	600	600	300	570	2,700		110		Sitapur Hardoi : } Sitapur
650	600	800	650	380	700	2,000		110		Bahraich Pilibhit Kheri : } Bahraich
1,150	650	700	400	300	400	2,600		120		Unao Lucknow Rae Bareilly : } Unao
1,200	650	850	600	390		2,800		110	20	Sultanpur Barabanki Partabgarh Fyzabad : } Sultanpur
600	550	550	400	320		2,150		120	17	Fatehpur Cawnpur Allahabad : } Fatehpur
1,200	550	700	600	280		2,600		100	19	Benares Jaunpur Mirzapur : } Benares
1,200	650	900	650	280	600	3,200		100	10	Ballia Ghazipur Azamgarh : } Ballia
1,200	600	700	600	280	570	2,500		100	19	Basti Gonda Gorakhpur : } Basti
			450	280		1,500		120		Jhansi Jalaun : } Jhansi
		500	600	240		1,500		120		Banda Hamirpur : } Banda
3,150	2,000	800	600	220	600	2,600	230	130	28	Average for the Province
3,000							170			

DISTRICT AVERAGES—continued

No. 7.—AVERAGE YIELD (lb. per acre) of PRINCIPAL

DISTRICT	WINTER RICE		AUTUMN RICE		SUMMER RICE		WHEAT		BARLEY		MAIZE		RAPI OR MUFUA	
	Irrig- ated	Unirri- gated	Irrig- ated	Unirri- gated	Irrig- ated	Unirri- gated	Irrig- ated	Unirri- gated	Irrig- ated	Unirri- gated	Irrig- ated	Unirri- gated	Irrig- ated	Unirri- gated
Patna	(a) 984 (b) 884	(a) 896 (b) 550	..	..	..	..	688	1,108	420	1,800	1,857	..	1,170	..
Gya	(a) 879 ..	(a) 603 (b) 028	..	(b) 276	..	..	1,013	784	..	745	..	..	..	..
Shahabad	(a) 532 (b) 1,262	(a) 723 (b) 817	..	(b) 244 (b) 720	..	..	910	297	..	..	617	272	..	..
Saran	(a) 436 ..	(a) 454 (b) 636	..	..	(b) 458	..	732	808	425	584	1,131	800	..	637
Champaran	(a) 773 ..	(a) 486 (b) 431	(a) 545 ..	(a) 422 (b) 586	..	..	..	504	..	478	..	917	..	..
Muzaffarpur	(a) 694 ..	(a) 863 ..	..	(a) 119 (b) 483	..	..	862	564	..	746	..	1,416	..	693
Barbhangha	(a) 645 (b) 296	(a) 606 (b) 461	..	..	..	..	..	649	..	551	..	1,000	..	1,062
Monghyr	(a) 542 ..	(a) 566 (b) 546	..	..	..	..	600	548	..	236	..	..	..	..
Bhagalpur	(a) 659 (b) 200	(a) 797 (b) 824	..	(a) 881 (b) 120	..	..	402	518	378	788	..	..	..	1,072
Purnea	(a) 1,556 ..	(a) 931 (b) 760	..	(b) 694	..	..	..	544	..	..	..	..	..	..
Santhal Parganas	(a) 1,087 (b) 2,611	(a) 1,046 ..	(a) 1,523 ..	(a) 871 (b) 447	..	..	588	1,273	..	1,224	..	1,512	..	..
Cuttack	(a) 1,043 (b) 934	(a) 922 (b) 1,081	(a) 1,061 (b) 1,047	(a) 488 (b) 970	(a) 1,269 (b) 611	(a) 936 (b) 736	..	1,880	..	..	..	..	..	..
Dalaspore	(a) 518 (b) 605	(a) 760 (b) 675	..	..	..	..	..	..	..	..	..	..	..	..
Angul	(a) 603 (b) 812	(a) 777 (b) 1,157	..	(a) 609 (b) 1,261	..	..	..	..	..	..	..	494	..	..
Puri	(a) 707 (b) 902	(a) 701 (b) 731	..	(a) 517 (b) 602	(b) 651	(b) 445	..	..	..	..	..	..	..	..
Bambalpur	(a) 1,074 (b) 871	(a) 1,176 (b) 643	(a) 896 (b) 1,203	..	(b) 949	..	..	..	..	..	..	..	..	..
Hazaribagh	(a) 936 (b) 886	(a) 642 (b) 851	..	..	..	..	464	594	520	..	..	896	..	429
Ranchi	(a) 1,414 ..	(a) 1,065 (b) 844	..	(b) 624	..	..	1,270	1,044	..	..	..	..	..	752
Palaman- di	(a) 610 (b) 586	(a) 474 (b) 709	(a) 824 ..	..	..	..	..	668	669	..	1,100	..	..	..
Manbhum	(a) 1,100 ..	(a) 856 ..	(b) 276 ..	..	(b) 501	..	..	..	..	..	..	948	..	151
Singbhum	(a) 977 (b) 946	(a) 832 (b) 780	..	(a) 701 (b) 533	..	..	..	..	..	..	..	570	..	..
Average for the province(c)	(a) 875 (b) 914	(a) 790 (b) 745	(a) 891 (b) 806	(a) 587 (b) 645	(a) 1,269 (b) 631	(a) 936 (b) 690	768	785	490	794	1,051	880	1,170	488

(c) The provincial average stated here is merely the sum of the district averages divided by the number of districts. The standards adopted for the province are stated in table No. 1.

CROPS in each DISTRICT of BIHAR and ORISSA

GRAM		ARHAR (Cajanus Indicus)	PEAN		MASUR		RAPE AND MUSTARD	LINSLED	POTATO	SUGARCANE (sdr)		JUTE		DISTRICT
Irrig- ated	Unirri- gated		Irrig- ated	Unirri- gated	Irrig- ated	Unirri- gated				Irrig- ated	Unirri- gated	Irrig- ated	Unirri- gated	
659	844	144	543	783	1,108	908	..	..	..	..	..	..	..	Patna
1,054	661	..	..	..	2,172	..	..	..	..	4,037	..	..	..	Gya
756	315	..	..	..	1,686	..	..	..	..	..	..	..	..	Shahabad
154	111	..	..	..	..	..	..	..	..	1,512	..	..	..	Saran
..	..	..	..	..	..	..	..	..	..	..	..	..	..	Champaran
401	634	807	..	..	..	..	237	142	16,730	..	..	..	..	Muzaffarpur
..	320	..	..	..	..	..	..	..	..	..	..	..	..	Darbhanga
..	..	..	..	..	..	..	..	..	..	..	..	..	..	Monghyr
517	344	..	..	..	..	..	..	..	..	1,130	..	..	483	Bhagalpur
..	..	..	..	..	..	..	721	..	..	..	..	..	..	Purnea
..	..	746	..	..	..	..	676	..	..	3,047	..	..	..	Saithel Parganas
745	..	..	..	..	..	..	809	..	..	..	..	1,123	1,076	Cuttack
..	..	..	..	..	..	..	..	..	..	..	..	..	..	Baharo
..	..	..	..	..	..	..	380	..	..	2,164	..	..	..	Angul
..	..	..	..	..	..	..	..	..	..	1,369	..	..	..	Puri
..	..	..	..	..	..	..	..	..	..	4,870	..	..	..	Sambalpur
269	515	..	..	..	..	..	..	..	..	..	..	..	..	Hazaribagh
..	..	..	..	..	..	..	..	..	..	..	..	..	..	Ranchi
..	794	..	..	..	..	..	..	..	..	..	..	..	..	Palaman
..	..	..	..	..	..	..	..	..	..	1,225	525	..	..	Manbhum
..	..	161	..	..	..	..	90	93	..	..	..	..	..	Blagbhum
515	487	509	640	768	1,642	108	726	105	13,780	2,012	695	1,126	843	Average for the Province

DISTRICT AVERAGES—continued

No. 8.—AVERAGE YIELD (lb per acre) of PRINCIPAL

DISTRICT	RICE (HUSKED)		WHEAT		BARLEY		JOWAR		BAJRA	
	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated
Hissar	598	598	1,000	480	1,100	800	480	340	460	400
Rohtak	650	...	1,180	610	1,200	860	800	520	470	420
Gurgaon . . . . .	...	...	1,050	600	1,400	700	600	440	520	400
Karnal	598	455	1,100	560	1,030	560	520	300	600	330
Ambala	715	404	1,060	720	1,000	600	520	420	520	360
Simla . . . . .	...	...	600	560	...	...	...	...	...	...
Kangra	715	429	600	560	600	600	...	...	...	...
Hoshiarpur	975	585	1,000	850	1,000	750	...	...	580	350
Jullundur	715	533	1,280	720	1,100	800	500	420	410	330
Ludhiana	650	390	1,160	700	1,160	520	570	530	400	370
Zerazpur	650	390	960	700	1,060	640	480	400	480	400
Multan	650	...	900	600	800	500	550	400	550	400
Jhang	455	...	980	600	850	600	740	460	580	420
Mianwali . . . . .	...	...	700	550	900	580	500	420	480	420
Lyallpur	780	...	1,200	500	1,000	...	600	...	580	...
Montgomery	780	748	960	600	900	620	500	420	500	400
Lahore	975	410	1,000	520	1,200	620	650	420	640	400
Amritsar	1,300	540	1,280	800	1,000	620	400	350	...	...
Gurdaspur	1,066	637	1,050	760	1,000	680	580	510	650	510
Sialkot	871	585	1,000	600	900	760	500	420	500	400
Gujrat	858	748	1,000	800	1,100	700	540	480	680	540
Gujranwala	1,040	780	960	560	1,000	560	500	420	480	340
Sheikhupura	1,105	780	1,400	560	1,000	560	500	420	480	340
Shahpur	650	533	930	650	1,040	720	600	420	680	480
Jhelum . . . . .	...	533	800	600	1,000	620	...	...	780	460
Rawalpindi	650	...	710	560	1,000	700	...	420	710	400
Attock . . . . .	...	...	770	560	1,000	700	...	420	600	350
Dara Ghazi Khan	520	507	800	520	750	540	380	320	420	400
Muzaffargarh	650	520	700	500	720	520	500	420	500	340
Average for the province	802	508	1,020	640	1,056	694	545	402	550	409
	777		856		825		434		425	

CROPS in each DISTRICT of the PUNJAB

MAIZE		GRAM		RAPESEED		SUGARCANE (GUR)		COTTON (OLCANED)		DISTRICT
Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	
...	...	800	800	540	500	2,500	...	140	90	Hissar
...	...	820	750	500	440	2,700	1,140	180	110	Rohtak
...	...	900	610	600	370	1,720	930	140	120	Gurgaon
1,120	640	980	540	560	300	2,500	1,250	190	96	Karnal
1,120	800	980	640	560	500	2,140	1,840	150	140	Ambala
...	...	...	...	...	...	...	...	...	...	Simla
800	700	...	400	300	240	...	620	64	50	Kangra
1,400	720	820	700	480	300	2,000	1,500	180	100	Hoshiarpur
1,800	900	900	720	500	330	2,000	1,600	220	132	Jullundur
1,560	720	900	600	780	430	2,000	1,400	166	82	Ludhiana
1,200	600	900	600	500	400	...	...	120	84	Ferozpur
800	500	480	420	400	240	1,430	...	100	66	Multan
900	580	600	500	490	420	1,200	...	100	60	Jhang
...	...	480	430	330	330	...	...	78	72	Mianwali
1,200	...	800	450	700	300	1,800	...	160	...	Lyallpur
900	560	650	520	490	400	...	...	180	80	Montgomery
1,300	600	900	640	500	350	1,700	1,000	132	72	Lahore
1,240	700	740	670	720	560	2,200	1,150	170	90	Amritsar
1,230	800	820	820	630	350	2,300	1,500	150	100	Gurdaspur
1,000	700	600	500	500	320	2,200	1,400	135	90	Sialkot
1,000	750	600	600	480	320	1,300	780	144	100	Gujrat
900	600	620	500	620	350	1,000	1,070	140	80	Gujranwala
900	600	620	700	480	350	1,400	1,070	120	80	Sheikhpura
960	750	680	680	600	400	1,600	...	140	74	Shahpur
1,040	820	830	570	420	350	...	...	146	61	Jhelum
1,300	1,000	...	510	400	350	...	...	116	100	Rawalpindi
1,440	580	550	540	480	240	780	...	100	50	Attock
...	...	440	440	240	230	...	...	100	62	Dera Ghazi Khan
...	...	420	420	270	200	1,200	...	80	52	Muzaffargarh
1,261	745	769	644	550	354	2,344	1,669	144	105	Average for the province
982		671		440		2,101		138		

DISTRICT AVERAGES—continued

No. 9.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in each DISTRICT of BURMA

DISTRICT	Rice (cleaned) (a)	Wheat	Jowar	Maize	Sesamum (Til or jinjili)	Ground nut	Cotton	BEANS		
								Pegyi*	Pegraj†	Pebyugale†
Akyab	1,000	...	...	...	...	...	...	...	...	...
Kyaukpadaung	870	...	...	...	...	...	...	...	...	...
Sandoway	870	...	...	...	...	...	...	...	...	...
Insein	970	...	...	...	...	...	...	...	...	...
Hanthawaddy	1,070	...	...	...	...	...	...	...	...	...
Tharrawaddy	1,100	...	...	...	...	...	...	...	...	...
Pegu	1,140	...	...	...	200	...	...	360	...	...
Prome	840	...	...	...	...	...	...	...	...	360
Bassein	1,000	...	...	710	150	...	...	...	...	...
Henzada	1,100	...	...	...	...	...	...	550	...	...
Myaungmya	1,140	...	...	1,020	250	...	...	...	...	...
Maubin	1,000	...	...	...	...	...	...	580	...	680
Pyapon	1,140	...	...	...	...	1,200	...	...	...	...
Toungoo	900	...	...	...	...	...	...	...	...	...
Salween	870	...	...	...	200	...	...	...	...	...
Thaungtha	870	...	...	...	...	...	...	640	...	...
Amherst	800	...	...	...	...	...	...	...	...	...
Tavoy	870	...	...	...	...	...	...	...	...	...
Mergui	840	...	...	...	...	...	...	...	...	...
Thayetmyo	700	...	...	...	...	...	...	...	...	...
Pakokku	600	...	...	610	150	850	80	...	...	...
Minbu	1,040	770	480	600	150	900	80	...	...	...
Magwe	540	...	460	800	170	...	...	490	730	600
Mandalay	970	...	410	850	200	1,300	80	770	1,150	860
Dharmo	870	...	...	...	200	...	...	500	...	1,080
Myittha	870	...	...	...	...	...	...	630	...	1,140
Katha	900	...	...	...	...	...	...	...	...	...
Shwabo	700	530	...	...	...	...	...	...	...	...
Sagaing	670	540	...	...	150	1,200	80	560	1,070	600
Lower Chindwin	600	550	540	490	120	850	95	480	1,000	700
Upper Chindwin	870	...	530	...	150	850	95	890	810	690
Kyaukse	940	460	...	...	...	...	...	...	...	...
Meiktila	600	...	...	...	200	...	...	...	...	...
Yamethin	740	...	300	610	150	850	80	700	410	770
Myingyan	670	...	470	590	170	850	80	720	...	700
			350	600	180	850	90	480	700	640
Average for the province	970	540	430	700	160	1,000	80	570	750	710

* Dolicholablab (large white).

(a) In converting paddy into 'cleaned rice' 3 lbs. of paddy have been taken as equivalent to 2 lbs. of cleaned rice.

† Phaseolus lunatus (red).

† Phaseolus lunatus (small white).

DISTRICT AVERAGES—continued

No. 10.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in each DISTRICT of the CENTRAL PROVINCES and BERAR

DISTRICT	RICE (HUFED)		WHEAT		JOWAR	GRAM	LINSEED	TIL OR JINJILI (SFSA-NUM)	SUGARCANE (cwt)		COTTON (CLEANED)
	Irrigated	Unirrigated	Irrigated	Unirrigated	Unirrigated	Unirrigated	Unirrigated	Unirrigated	Irrigated	Unirrigated	Unirrigated
Saugor	..	(b)558	1,000	600	580	500	280	150	1,500	1,000	54
Damoh	..	(b)558	..	600	580	480	200	160	1,500	1,000	54
Jubbulpore	..	(a)620 (b)400	..	620	450	580	250	150	1,500	1,000	60
Manilla	..	(a)651 (b)527	..	600	350	580	200	160	1,500	..	54
Seoni	(a)602 (b)630	(a)651 (b)540	..	620	450	500	250	160	1,500	..	61
Narsinghpur	..	(b)434	..	660	450	580	280	200	1,500	1,000	72
Hoshangabad	..	(b)474	..	620	450	520	250	250	1,500	1,000	72
Kinnow	..	(b)620	1,000	640	600	500	200	250	3,500	..	96
Total	..	(b)434	1,000	620	500	500	200	180	3,500	..	72
Chhindwara	..	(b)474	1,000	600	600	500	220	180	3,500	..	90
Wardha	..	(b)434	1,000	500	700	580	300	200	3,000	..	90
Nagpur	(a)602 (b)670	(a)651 (b)558	1,000	500	600	580	230	300	3,000	..	90
Chanda	(a)602 (b)630	(a)651 (b)558	..	600	650	550	250	300	3,500	..	81
Bhandara	(a)602 (b)577	(a)651 (b)558	..	500	460	450	200	300	1,500	..	45
Palaghat	(a)602 (b)647	(a)651 (b)558	..	500	550	550	200	300	1,500	..	45
Haldipur	(a)602 (b)630	(a)620 (b)580	..	500	350	450	150	160	3,000	1,000	45
Bilaspur	(a)602 (b)630	(a)620 (b)580	..	600	350	450	180	150	2,500	1,000	45
Drong	(a)602 (b)630	(a)620 (b)580	..	500	350	450	180	150	1,500	1,000	45
Average for the Central Provinces	626	602	602	602	602	580	214	208	2,522	..	86
Alota	..	(b)434	..	500	700	550	330	300	3,000	..	96
Autawal	..	(b)474	..	500	700	550	330	300	3,000	..	90
Ilamla	..	(b)474	1,000	500	700	550	330	300	3,000	..	90
Yeshwant	..	(b)474	..	500	700	550	330	300	3,000	..	90
Average for Berar	634	602	602	602	602	580	214	208	2,522	..	86
Average for the Central Provinces and Berar	626	602	602	602	602	580	214	208	2,522	..	86

(a) Irrigated.

(b) Unirrigated.

DISTRICT AVERAGES—continued

No. 11.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in each DISTRICT of ASSAM

DISTRICT	RICE			Mati- khal (<i>Pharus radiatus</i>)	Rape and Mustard	Lanseed	Maize	Sugar- cane (<i>gür</i>)	Cotton (cleaned)	Jute	Potato
	Winter rice	Autumn rice	Spring rice								
Sylhet	784	672	1,008	...	336	336	...	2,240	100	...	...
Cachar (plains)	(a) 784 (b) 952 (c) 907	726	...	...	448	...	...	2,240	...	...	...
Golpara	(a) 672 (b) 1,232 (c) 1,073	728	...	...	504	...	...	2,240	...	...	...
Kamrup	(a) 672 (b) 806 (c) 840	672	...	...	448	...	...	1,680	...	...	...
Garo Hills (plains)	(a) 672 (b) 1,288 (c) 1,232	784	...	...	448	...	...	...	...	...	...
Darrang	(a) 672 (b) 1,008 (c) 997	840	...	...	448	...	...	2,240	...	...	...
Nowgong	(a) 896 (b) 952 (c) 930	672	...	...	560	...	...	2,240	100	...	...
Sibsagar	(a) 672 (b) 896 (c) 896	672	...	...	560	...	...	2,240	...	...	...
Lakhimpur	(a) 784 (b) 1,064 (c) 1,064	616	...	...	504	...	...	2,240	...	...	...
Average for the plains districts	896	728	1,008	392	504	336	...	2,128	100	1,400	...
Khasi and Jaintia Hill	784	672	...	...	...	...	2,128	...	160	...	5,040
Lushai Hills	1,176	...	...	...	...	...	...	...	100	...	...
North Cachar Hills	1,008	...	...	...	...	...	...	...	100	...	...
Garo Hills (hills) . . . . .	...	672	...	...	...	...	...	...	212	...	...
Average for the hill districts	1,008	672	...	...	...	...	2,128	...	164	...	5,040
Average for the province	896	706	1,008	392	504	336	2,128	2,128	153	1,400	5,040

(a) Broadcast.

(b) Transplanted;

(c) Both.

No. 12.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in each DISTRICT of the NORTH-
WEST FRONTIER PROVINCE

DISTRICT	RICE (HUSEKD)	WHEAT		BARLEY		JOWAR		BAJRA		MAIZE		GRAM		RAPESEED		SUGAR- CANE (<i>gür</i>)	COTTON (CLEANED)	
	Irrig- ated	Irrig- ated	Unirrig- ated	Irrig- ated	Unirrig- ated	Irrig- ated	Unirrig- ated	Irrig- ated	Unirrig- ated	Irrig- ated	Unirrig- ated	Irrig- ated	Unirrig- ated	Irrig- ated	Unirrig- ated	Irrig- ated	Irrig- ated	Unirrig- ated
Hazara	823	741	473	782	535	..	..	494	320	1,316	741	..	..	432	320	1,975	93	57
Peshawar	925	823	576	1,234	823	987	412	..	..	1,040	823	..	..	494	320	2,880	103	62
Kohat . . . . .	..	823	494	823	535	..	..	1,020	494	1,020	917	453	453	320	247	..	93	51
Banru . . . . .	..	741	514	700	453	..	..	617	412	864	864	741	412	412	298	1,075	110	57
Dera Ismail Khan	..	741	535	917	320	494	220	453	320	..	..	917	412	370	298	..	82	62
Tochi . . . . .	..	823	..	1,020	..	..	..	..	..	1,481	..	..	..	..	..	..	62	..
Karun	864	823	320	1,070	..	..	..	..	..	1,154	..	..	..	..	..	..	..	..
Average for the Province	852	788	522	1,140	782	663	300	571	427	1,440	740	627	417	457	297	2,721	102	58
		614		880		600		490		1,118		420		322			92	

DISTRICT AVERAGES—concluded

No. 13.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in AJMER-MERWARA

DISTRICT	BARLEY			JOWAR	MAIZE			COTTON		
	Irrigated	Unirrigated	Both	Unirrigated	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both
Ajmer . . .	1,114	..	...	105	1,250	..	..	154	...	..
Kekri . . .	1,400	...	..	400	400	..	..	70	...	..
Merwara . .	1,472	1,300	..	...	1,520	400	..	301	18	...
Average for the province	1,429	1,300	1,300	252	1,090	400	917	170	18	136

No. 14.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in DELHI

DISTRICT	WHEAT			BARLEY			JOWAR			BAJRA			MAIZE		
	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both
Delhi . . .	1,148	570	702	1,050	672	830	720	576	638	600	528	529	912	648	728

DISTRICT	GRAM			SUGARCANE			COTTON			RAPESEED			SESAMUM (TIL OR JINJILI)			TOBACCO		
	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both	Irrigated	Unirrigated	Both
Delhi . . .	720	552	655	2,496	1,344	2,301	120	70	100	..	..	317	..	..	317	2,304	..	2,334

No. 15.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in COORG .

DISTRICT	RICE (HUSKED)	RICE STRAW (BYE-PRODUCT)
	Unirrigated	Unirrigated
Coorg	1,420	2,300

No. 16.—AVERAGE YIELD (lb per acre) of PRINCIPAL CROPS in each DISTRICT of the MYSORE STATE .

DISTRICT	RICE (HUSKED)	RAGI	HORSE GRAM (Dolichos biflorus)	SESAMUM (TIL OR JINJILI)	SUGARCANE (gár)	COTTON (CLEANED)
	Irrigated	Unirrigated	Unirrigated	Unirrigated	Irrigated	Unirrigated
Bangalore	877	770	391	262	3,000	...
Kolar	920	803	360	160	4,000	...
Tumkur	1,035	770	480	225	2,250	100
Mysore	1,972	550	480	270	2,500	200
Hassan	1,200	958	400	358	2,000	200
Bhlmoga	1,200	400	220	180	1,800	180
Kadur	1,400	600	210	321	2,000	...
Chitaldrug	1,200	600	140	...	2,200	150
Average for the State	1,222	738	380	288	2,621	147